

WHAT IS CLAIMED IS:

1. A fuel cell assembly comprising:
a plurality of multi-cell modules disposed in series; and
an external member,
wherein the multi-cell module has a multi-cell assembly formed by stacking a plurality of cells, and a module frame having a first wall that surrounds the multi-cell assembly and that extends in a cell stacking direction of the multi-cell assembly, and
wherein the external member extends outside the plurality of multi-cell modules and in the cell stacking direction along the multi-cell modules.
2. The fuel cell assembly according to claim 1,
wherein the external member extends outside the plurality of multi-cell modules and in the cell stacking direction along all the multi-cell modules.
3. The fuel cell assembly according to claim 1 or 2, wherein in the multi-cell module, the multi-cell assembly of the multi-cell module is left unrestrained in the cell stacking direction by the module frame of the multi-cell module so as to relieve thermal expansion of a cell in the cell stacking direction.
4. The fuel cell assembly according to claim 1 or 2, wherein in the multi-cell module, cells of the multi-cell assembly are adhered to one another.
5. The fuel cell assembly according to claim 1 or 2, wherein in the multi-cell module, a space is formed or a deformable adhesive member is provided between an external surface of the multi-cell assembly of the multi-cell module and an internal surface of the first wall of the module frame of the multi-cell module so as to relieve thermal expansion of a cell in a direction perpendicular to the cell stacking direction.
6. The fuel cell assembly according to claim 1 or 2, wherein an external restrainer member is provided between an internal surface of the external member and an external surface of the first wall of the module frame of the multi-cell module.
7. The fuel cell assembly according to claim 1 or 2, wherein the plurality of multi-cell modules are disposed in series in the cell stacking direction, and a spring box is disposed in

series in the cell stacking direction with respect to the plurality of multi-cell modules disposed in series, and a spring force of the spring box is applied to the plurality of multi-cell modules in the cell stacking direction.

8. The fuel cell assembly according to claim 1 or 2, wherein the module frame has a second wall that extends in a direction perpendicular to the cell stacking direction, in addition to the first wall.

9. The fuel cell assembly according to claim 8, wherein a coolant passage is formed in the second wall.

10. The fuel cell assembly according to claim 9, wherein a contact surface of the second wall which contacts a cell is formed of an electrically conductive material.

11. The fuel cell assembly according to claim 8, wherein at least a portion of a contact surface of the second wall which contacts a cell is formed so as to be displaceable in the cell stacking direction.

12. The fuel cell assembly according to claim 11, wherein a coolant passage is formed in the second wall, and a portion of the second wall which is displaceable in the cell stacking direction is displaced by a pressure of the coolant passage.

13. The fuel cell assembly according to claim 1 or 2, wherein an external surface of the module frame and an internal surface of the external member contact each other in a point contact fashion.

14. The fuel cell assembly according to claim 1 or 2, wherein the module frame is provided with an opening for mounting, on the multi-cell assembly, a member that electrically connects the multi-cell assembly to an external device.

15. The fuel cell assembly according to claim 1 or 2, wherein the module frame includes at least two frame members that are separate from each other.

16. The fuel cell assembly according to claim 1 or 2, wherein an internal surface of the

module frame has a groove for an adhesive.

17. The fuel cell assembly according to claim 1 or 2, wherein the module frame is provided with a cell monitor presser that extends from the module frame toward an external surface of the cell monitor.

18. The fuel cell assembly according to claim 1 or 2, wherein at least a portion of the module frame is formed of a non-electrically conductive material.

19. The fuel cell assembly according to claim 1 or 2, wherein frame members that constitute the module frame made of a resin are disposed at four corner sites of an end cell of a multi-cell assembly of the multi-cell module.

20. The fuel cell assembly according to claim 1 or 2, wherein the module frame is formed of an elastic member.

21. The fuel cell assembly according to claim 20, wherein a friction coefficient of a surface of the elastic member is smaller than a friction coefficient of the elastic member itself.

22. The fuel cell assembly according to claim 20, wherein the module frame is connected to an end cell of a multi-cell assembly of the multi-cell module.

23. The fuel cell assembly according to claim 20, wherein a wire is embedded in the module frame.